Reasons Developers Struggle with AppSec and How to Make it Easier

Hint: None of the reasons are “Developers Don’t Care about Security”

$ whoami

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AppSec Problem Overview

AppSec = Good; In Theory

Static Code Analysis

- Noisy, often lacks Application Context
- Language Dependant (Don’t get me started on IDE support)

Dynamic Code Analysis

- Better at actual app and context, but still somewhat noisy
- Hard to use

RASP, IAST, WAF

- Wait til someone/something else finds it… in Prod

Problem One:
The Benevolent Security Team Or Lack Thereof

Trust Issues

Charlie Miller @0xcharlie · Feb 23

Replying to @coleencoolidge and @fredrickl

i'm not sure if a new hire dev is in a position to evaluate risk for a feature, product, or company. i think professional security people can do this better?

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Trust and Support

> **I wouldn’t want to put a new hire Developer in the position of making an uninformed risk decision**

-Scott Gerlach

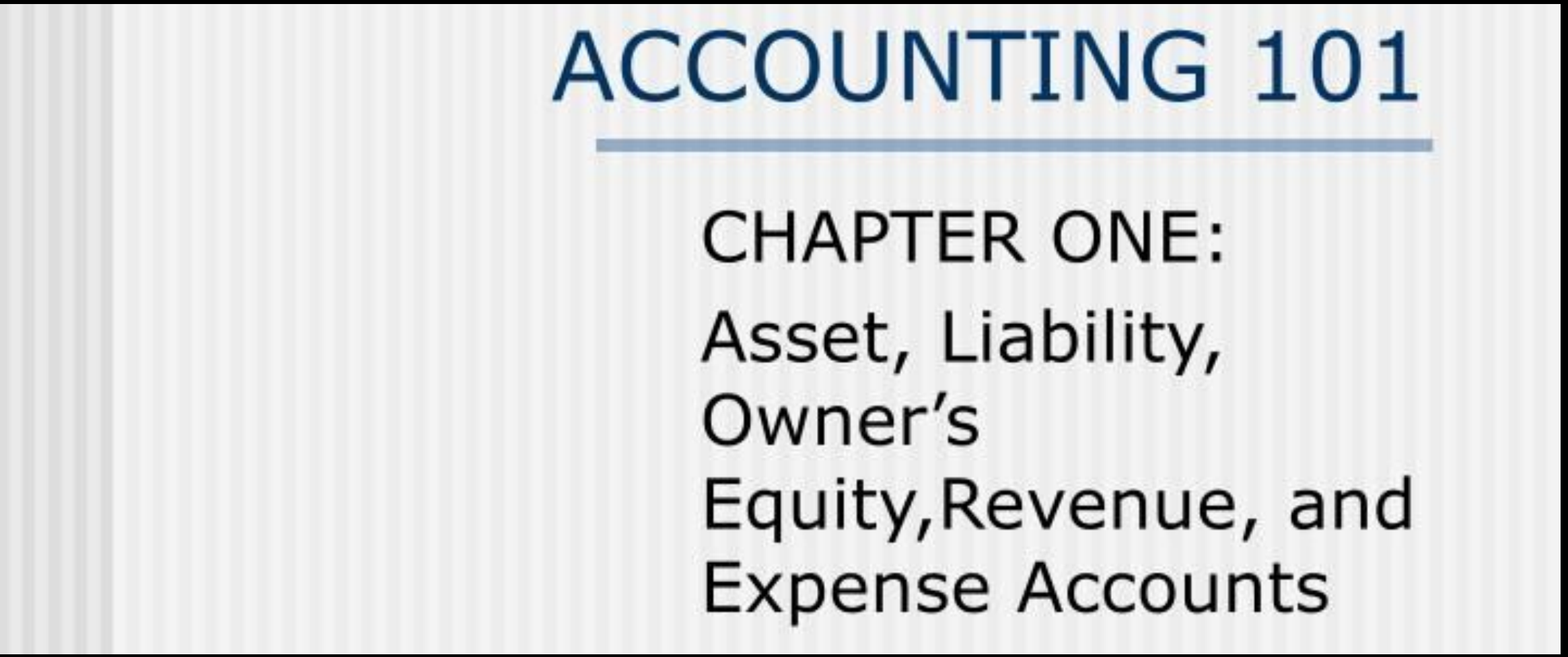
Let’s Teach Them AppSec

If they know how attackers think, they’ll be able to test like an attacker - Hack Yourself!

- Here’s 11ty Billion new Acronyms to learn
- Also, let’s talk about risk
- But wait before that, do you know the Internet is a bad place?
- *If you have sent any of your Devs to a Security Training program, who usually gets selected?*

“We Need to Model Out a Price Increase”

Have you ever seen the FP&A team teach the basics of accounting to the Exec Team



The Chase to Perfection

- Find 11ty Billion issues -> We have to fix all of these!
- Why? What is the actual risk in the context of the business?
- What if your QA filled 1,000 tickets for bugs that are unlikely to degrade user experience?

“I’ve never had a satisfying conversation on why a security issue is ever more important than a feature. Ever.” - Product VP

If You Don’t Have a Security Team

- Where do I start?
- OMG, forget it. I have other stuff to do.
- Wait, maybe the DevOps team can handle it

Problem Two:
AppSec Tools are built for Security Teams


I think we've got a SQL Injection here

Security Websters

CSRF: Cross Site Request Forgery

Cross-Site Request Forgery (CSRF) is an attack that forces an end user to execute unwanted actions on a web application in which they're currently authenticated. With a little help of social engineering (such as sending a link via email or chat), an attacker may trick the users of a web application into executing actions of the attacker's choosing. If the victim is a normal user, a successful CSRF attack can force the user to perform state changing requests like transferring funds, changing their email address, and so forth.

XSRF: Cross Site Request Forgery

We couldn't decide which one to use, so we use both interchangeably. Isn't that cool? Anyway, I hope some of this text helps you understand what this means because we wrote a lot of it.

There are Good AppSec Dev Tools Out There

Developer native tools (in context, how they work)

- Snyk
- Fossa
- npm audit
- GitHub (package inspection, PR Bot)
- OWASP Dependency Check

Lastly, and worst of all, they all suffer from....

Problem Three:
The Production Bias

Examining the Production-Bias: People

The Security Team

Production is where they **know the app the best**

Pen Tester

Production is their **only point of access**

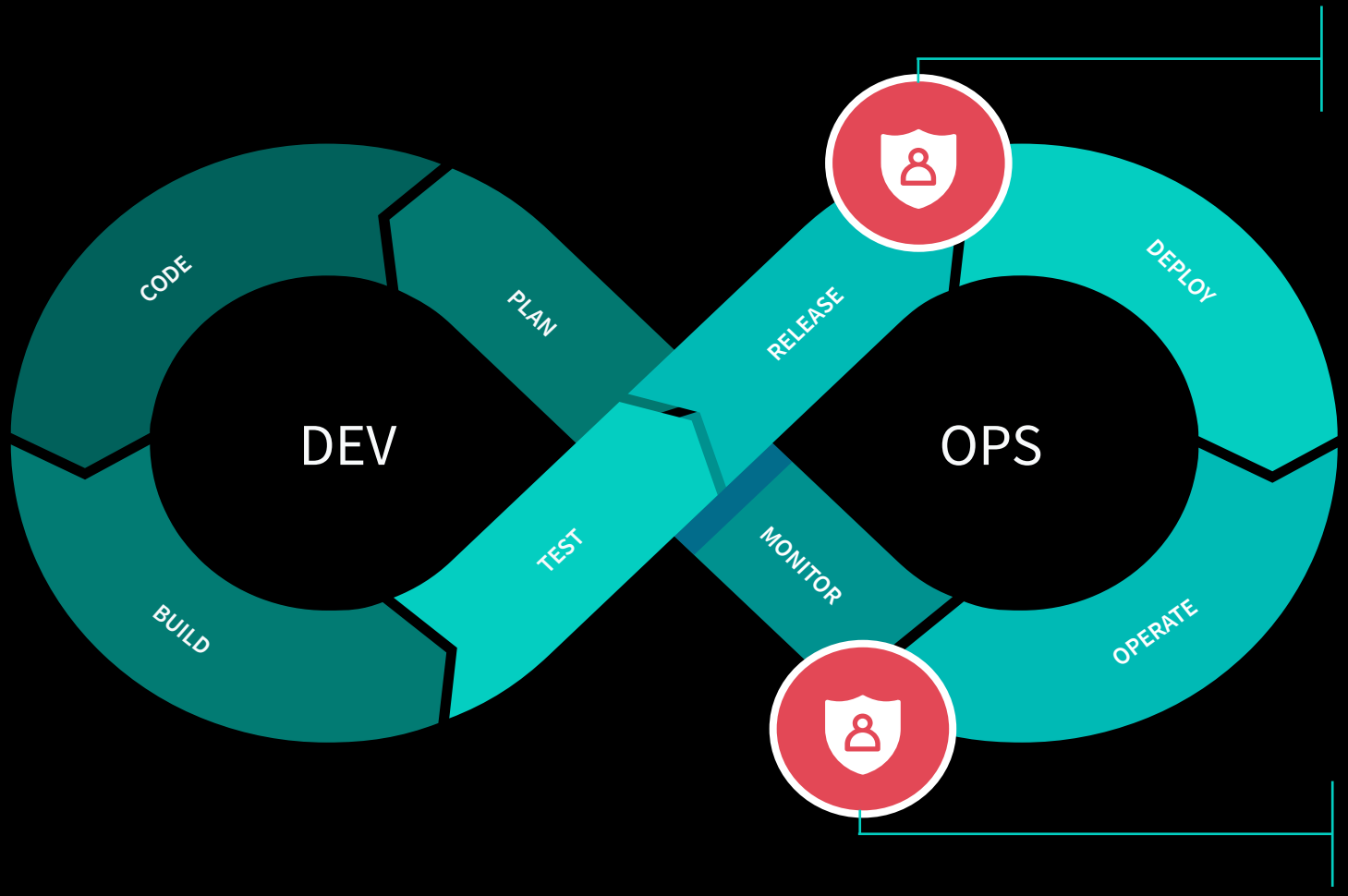
Primary Value: These groups are very focused on the "**finding**" of vulnerabilities/security bugs. MOAR findings = MOAR better.

Repercussions…

- More focused on the **numbers** of things found, than finding and fixing the right things
- Inefficient — the "**finders**" are not the "**fixers**"
- Reinforces an adversarial relationship — "Hey look, I broke your stuff"

*Assuming you have a security team

Examining the Production-Bias: Timing



Security is either a blocker

or “playing catch up”

Illustration by Stories by Freepik

Also, there's a major problem with appsec tools that favor running in production…

THE BUGS ARE IN PRODUCTION.

Getting Started: *The Right Way*

How Test-Driven Security Should Work

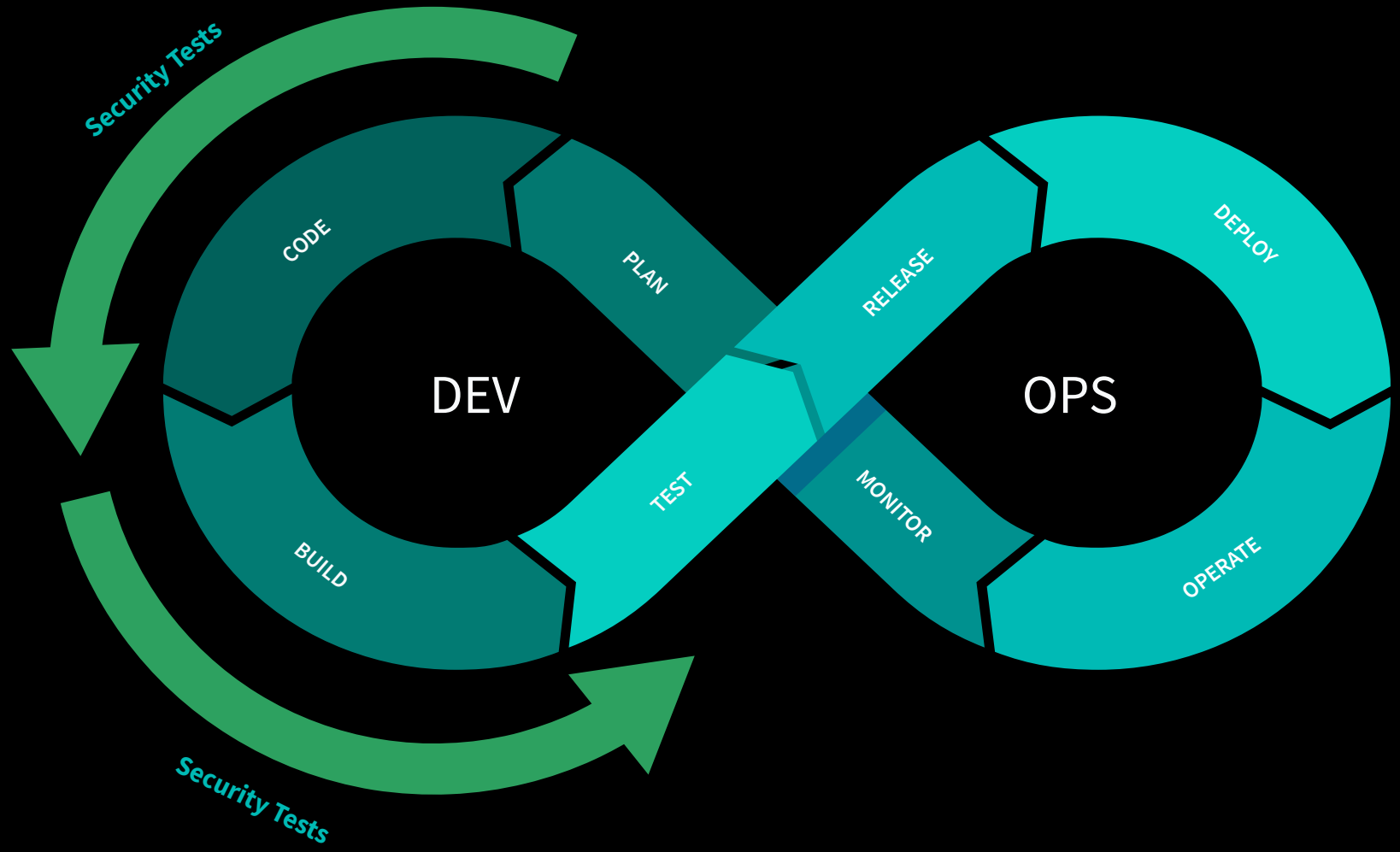
- When a team writes code, they know the syntax is wrong when it won't compile.
- When a team merges code they know there is a problem when it doesn't merge.
- When a team runs unit tests, they know the code is wrong when it fails the unit test.
- When a team runs integration tests, they know the code is wrong when it doesn't work as designed.
- **When a team introduces a vulnerability, they know when it fails a security test.**

Right Time: Pre-Production

Local Dev & CI/CD

Instrumenting Security Tests into CI/CD gives engineers **immediate** feedback.

Adding the ability to test locally allows for quick iteration in the fix-test loop if a new bug is identified.



Engineers Are Smart: Let Them Be Smart

- Security Teams tend to want to “Approve” everything: What that means is other people can’t make decisions
- Allow technology to spark collaboration between Development and Security but enable Devs to do their work
- Business Risk is a collaboration, not a one team knows the answer game

Just Start!

- Engage an Engineering Team and their pipeline
- Choose AN app or service to start
- Choose a technology (SCA, DAST)
- Iterate and expand

Thanks!

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